Technical data

729 Pro Automatic Pressure Calibrator

Portable automatic pressure calibrator simplifies pressure calibration to 1,000 psi



The Fluke 729 Pro Automatic Pressure Calibrator is designed specifically for process technicians to simplify pressure calibration and provide faster, more accurate test results.

With an automatic internal electric pump, a target pressure can be set in 729 Pro, and the calibrator automatically pumps to the desired pressure. Then internal fine adjustment control automatically stabilizes and holds the pressure at the desired value.

The Fluke 729 Pro can also automatically test multiple pressure test points and automatically document the results. Calibration is as easy as typing in the starting and ending pressure, the number of test points and tolerance level; the 729 Pro does the rest.

Built-in HART communication capabilities enable HART transmitter mA adjustments, light HART configuration and the ability to adjust to applied 0% and 100% pressure values.

Fluke 729 Pro Key Features

- Automatic pressure generation and regulation to 1000 psi, 7 MPa
- Replaceable pressure control modules
- Fast to high pressure setpoints, get more done
- Built-in test template, easy one-button documented calibration
- HART communication
- Pressure leakage testing
- Automatic fine-pressure adjustment, automatic pressure stabilization
- Powerful Li-ion battery
- Extend measurement range with 750PSeries pressure modules
- Measure temperature with 720RTD probe
- Bright dual-three-channel/color graphic display
- Rugged and portable design with standard 3-year warranty

Fluke 729 Pro performs automatic pressure calibration with excellent portability of less than 5 kg. Engineers and technicians are no longer restricted by the environment and can perform efficient calibration at will. The 729 Pro can be widely used in electric power, petroleum, chemical, pharmaceutical, metrology, metallurgy, biology, food, transportation and automobile manufacturing.

Automatic pressure generation and regulation to 7 MPa (70 bar, 1000 psi). Enter a pressure up to 7 MPa and the 729 Pro will automatically pump to the desired pressure. The 729 Pro can also output changing pressure in step values or a linear ramp.

Easy calibration documentation using well-defined templates for transmitters and switches. Type in the starting and ending test pressures and number of test points, the 729 Pro does the rest by documenting the applied pressure, measured mA and % error for each test point. The bright color graphical display will flag test results that are out of tolerance in red.

Key Parameters

	729 Pro 7M	729 Pro 4M
Pressure control range	(-13 to 1000) psi (-90 to 7000) kPa (-0.90 to 70) bar	(-13 to 600) psi (-90 to 4000) kPa (-0.90 to 40) bar
Pressure type	Gauge/absolute (Depends on the type of pressure module)	
Control stability	0.005 % of FS, minimum	
Built-in replaceable pressure control modules	6 modules	4 modules
External pressure measurement modules	750 Series pressure modules, 50 models ranging from 0 to 1 in H2O, 2.5 mbar, 250 Pa to 10,000 psi, 70 bar, 7 MPa	
mA sourcing/measurement	Yes	
Voltage measurement	Yes	
Loop power	24 V dc	
One-key calibration	Task templates make documented automatic calibrations easy.	
Pressure switch testing	Yes	
Pressure leakage testing	Yes	
HART	Yes	
Autostep/auto ramp	Yes (with customizable speed, mode and style)	
Log function	Yes	
Software	DPCTrack2 Calibration and Asset Management Software	
One-key pressure-relief	Yes (muffler)	
Battery	Rechargeable lithium battery with capacity indication (charged with the instrument or separately)	
Language	English/Simplified Chinese	

Replaceable pressure control modules. Freely switch the pressure output range to achieve range matching without having to buy a complete new calibrator.

No tools required powerful Li-ion battery. The lithium battery equipped can be charged separately or with the device, along with a capacity indicator to confirm the power before installation. It is easy to replace the battery without any tools.

HART communication enables mA output trim, trimmed to applied values, and pressure zero trimming of HART pressure transmitters. You can easily change a transmitter tag, measurement units and ranges. Other supported HART commands include setting fixed mA outputs for troubleshooting, reading device configuration parameters and reading device diagnostics.



Figure 1. Rechargeable lithium battery with capacity indication.

Pressure module specifications

	Pressure type	Range	Resolution	Total uncertainty	729 Pro4M	729 Pro7M
FLK-PMM-200K[1]	gauge	(-15 to 30) psi (-100 to 200) kPa (-1 to 2) bar	0.0001 psi 0.001 kPa 0.00001 bar	0.02 % FS/year	•	•
FLK-PMM-200KA[2]	absolute	(0 to 30) psi (0 to 200) kPa (0 to 2) bar	0.0001 psi 0.001 kPa 0.00001 bar	0.05 % FS/year	•	•
FLK-PMM-2000K[1]	gauge	(-13 to 300) psi (-90 to 2000) kPa (-0.90 to 20) bar	0.001 psi 0.01 kPa 0.0001 bar	0.02 % FS/year	•	•
FLK-PMM-4000K[1]	gauge	(-13 to 600) psi (-90 to 4000) kPa (-0.90 to 40) bar	0.01 psi 0.01 kPa 0.0001 bar	0.02 % FS/year	•	•
FLK-PMM-7000K[1]	gauge	(-13 to 1000) psi (-90 to 7000) kPa (-0.90 to 70) bar	0.01 psi 0.01 kPa 0.0001 bar	0.02 % FS/year		•
FLK-PMM-7000KA[2]	absolute	(0 to 1000) psi (0 to 7000) kPa (0 to 70) bar	0.01 psi 0.01 kPa 0.0001 bar	0.02 % FS/year		•

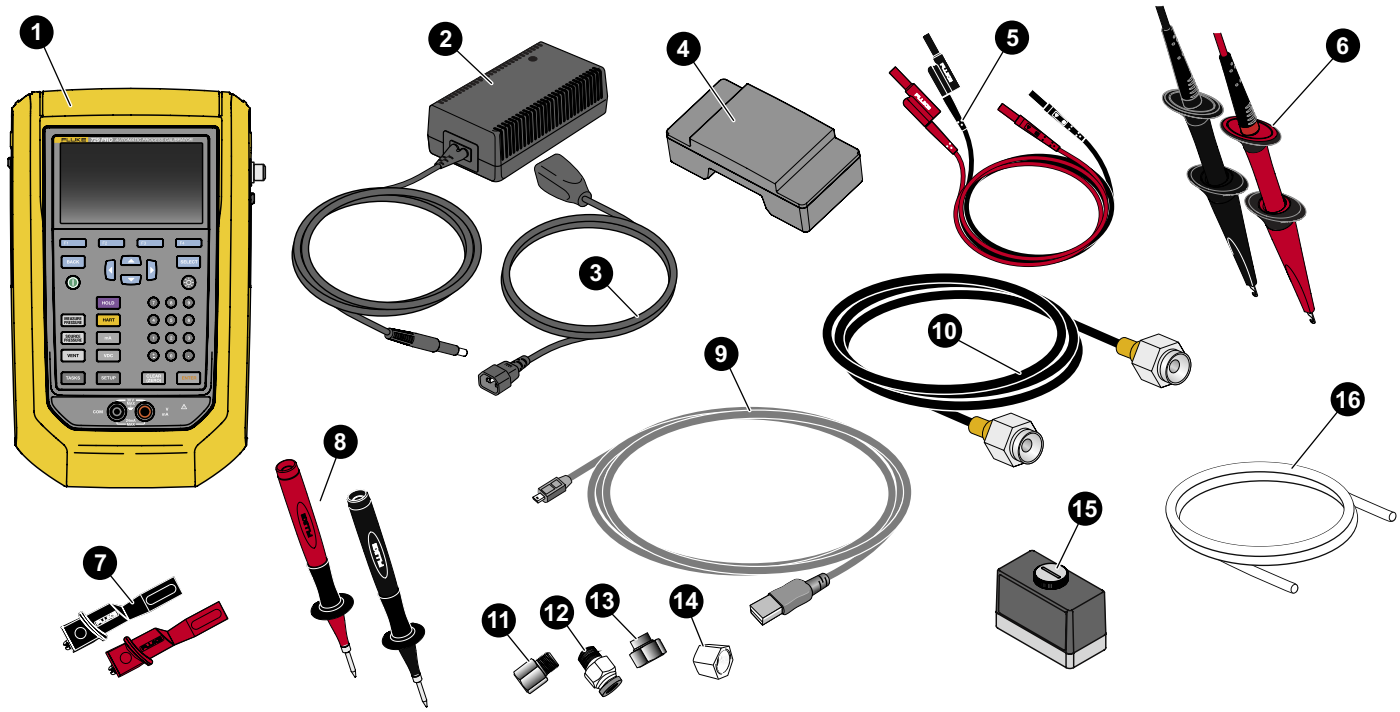
[1] Measurement reference
[2] Absolute reference
Air or non-corrosive gases only / 15 °C to 35 °C (59 °F to 95 °F)

Specifications

	729 Pro 7M	729 Pro 4M
Pressure specifications (See User Manual for detailed specifications)		
1-year specifications	0.02 % of FS	
Control specifications	0.005 % of FS	
Electrical specifications (*All specifications are valid to 110 % of range, except 24 mA sourcing and simulating which are valid to 100 % of range)		
mA measure, source and simulate	0 mA to 24 mA (resolution of 1 µA)	
Volts dc measurement	0 V dc to 30 V dc (resolution of 1 mV)	
Accuracy	0.01 % FS ± 2 LSD (23 °C ± 5 °C)	
Stability	20 ppm FS/°C (-10 °C to +18 °C and 28 °C to 50 °C)	
Loop compliance voltage	24 V dc @ 20 mA	
mA simulation working voltage	12 V dc to 30 V dc	
Temperature measurement, 100 Ω Pt (385) RTD	-50 °C to +150 °C (-58 °F to 302 °F)	
Temperature resolution	0.01 °C (0.01 °F)	
Temperature accuracy	± 0.1 °C (0.2 °F) ± 0.25 °C (± 0.45 °F) combined uncertainty when using 720 RTD probe (optional accessory)	
Drive capability (mA source)	1200 Ω (without HART resistor), 950 Ω (with internal HART resistor)	
Mechanical specifications		
Dimensions (H x W x L)	290 mm x 215 mm x 100 mm (11.4 in x 8.5 in x 3.9 in)	
Weight	4.9 kg (10.89 lbs)	
Environmental specifications		
Operating temperature	-10 °C to 50 °C	
Pressure control	0 °C to 50 °C	
Battery charging	0 °C to 40 °C	
Storage temperature	-20 °C to 60 °C	
Operating altitude	< 3000 m	
Storage altitude	< 13000 m	
Operating humidity	Non-condensing (< 10 °C) ≤ 90 % RH (10 °C to 30 °C) ≤ 75 % RH (30 °C to 40 °C) ≤ 45 % RH (40 °C to 50 °C)	
Safety		
General	IEC 61010-1, pollution degree 2	
Lithium battery	IEC 62133, UN 38.3; 14.4 V, 6.7Ah, 97Wh, 4ICR19/66-2 (4s2p) Charge input 19.5 V, 1.6 A	

Product Kit

Item	Description
1	729 Pro Automatic Pressure Calibrator
2	AC/DC converter
3	Power cord
4	Rechargeable Li-ion battery
5	Stackable test lead set
6	AC280 Sure Grip hook set (red and black)
7	Alligator clips (red and black)
8	One set of TP220 test probes (red and black)
9	USB communication cable: 3 ft (1 m) Type A plug for host (PC) to Mini-B plug for device
10	Flexible hose, 2 mm diameter , 1.5 m (5 ft) length
11	Fitting, 1/8 in NPT-Female x 1/4 in NPT-Female
12	Fitting, 1/8 in NPT-Male x 1/4 in NPT-Male
13	Fitting, 1/8 in NPT-Female x M20 Female
14	Fitting, 1/4 in BSP-Female x 1/8 in NPT-Female
15	Pressure Measurement Module (PMM)
16	Hose for draining condensed water generated inside the Product. 1/8 in diameter, 1 ft length
not shown	Adjustable quick-release strap for hanging the product, Safety Information, Traceable calibration report with data, PTFE tape



Ordering information

Models	Description	Fluke P/N
FLK-729Pro 4M	Fluke 729 Pro Automatic Pressure Calibrator, 4 Mpa	5300476
FLK-729Pro 7M	Fluke 729 Pro Automatic Pressure Calibrator, 7 Mpa	5300483
FLK-PMM-200K	Replaceable pressure module, (-15 to 30) psi, (-100 to 200) kPa, (-1 to 2) bar	5299928
FLK-PMM-200KA	Replaceable pressure module, absolute, (0 to 30) psi, (0 to 200) kPa, (0 to 2) bar	5299970
FLK-PMM-4000K	Replaceable pressure module, (-14 to 600) psi, (-95 to 4000) kPa, (-0.95 to 40) bar	5300006
FLK-PMM-7000K	Replaceable pressure module, (-14 to 1000) psi, (-95 to 7000) kPa, (-0.95 to 70) bar	5299996
FLK-PMM-7000KA	Replaceable pressure module, absolute, (0 to 1000) psi, (0~7000) kPa, (0 to 70) bar	5299962

Optional accessories

Description	Quantity	Fluke P/N
BP729, Rechargeable Li-ion battery	1	4817068
AC power supply/ battery charger	1	4878453
International AC Adapter (except China)	1	2441372
Power cord, patch cord (except China)	1	4542113
Power cord (China only)	1	2716592
USB cable assembly	1	4499448
AC280, Suregrip hook set	1	1610115
Alligator clip set	1	3765923
Lead assembly, stackable test lead set	1	3669716
TP220, test probe, industrial	1	3971276

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